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| 24737 | 7590 | 05/09/2005 | EXAMINER | |
| PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510 | | | YAMNITZKY, MARIE ROSE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1774 | |

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,472

Applicant(s)

MATTHEUS BERNTSEN ET AL.

Examiner

Marie R. Yamnitzky

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/790,201.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. The preliminary amendment filed February 17, 2004, which amends the specification, cancels claims 1-12 and adds claims 13-20, has been entered.

Claims 13-20 are pending.

2. Regarding claim interpretation:

The repeating unit named in dependent claim 16 does not specifically name any substituent corresponding to the 1-3 substituents "R" that are required by independent claim 13. The examiner interprets claim 16 as limiting the repeating unit of formula (C1) to one in which each of OC_m and OC_n is a 2-methylpropyloxy group, one of which is at the 3' position and one of which is at the 4' position, wherein p is 1, 2 or 3 and R is any of the possibilities set forth in claim 13.

Similarly, the examiner interprets claim 20 as limiting the repeating unit of formula (C1) to one in which each of OC_m and OC_n is a 2-methylpropyloxy group, one of which is at the 3' position and one of which is at the 4' position, wherein p is 0, 1, 2 or 3 and R is any of the possibilities set forth in claim 17.

3. The disclosure is objected to because of the following informalities:

The specification names 3,7-dimethylhexyloxy as an OC_{10} group (see page 3, line 19, p. 10, l. 1, p. 12, l. 13 and p. 13, l. 3), but dimethylhexyloxy is an OC_9 group.

Page 8, line 6 refers to claims 11 and 12, but claims 11 and 12 have been cancelled.

Appropriate correction is required.

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4. Claims 13-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The definition of R^1 and R^2 as separately being a C_1 - C_{20} alkylene group does not find support in the original disclosure in which R^1 and R^2 could together be a C_1 - C_{20} alkylene group.

5. Claims 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The definition of R^1 and R^2 as separately being a C_1 - C_{20} alkylene group, which is a divalent group, is confusing since each of R^1 and R^2 alone is a monovalent group.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/21936.

See the whole document. In particular, see page 1, line 18-p-2, l- 10-p-15, l- 9-p-17, l- 20, p. 19, l. 1-13 and p. 19, l. 25-p. 20, l. 22.

Each of prior art polymers NRS-291, NRS-293, NRS-294 and NRS-296 are aryl-substituted poly-p-arylenevinylenes comprising a repeating unit of formula (C1) as defined in present claim 17 wherein p is 0, and further defined in claims 18-20.

These polymers are disclosed for use in an organic electroluminescent device.

The service life limitations set forth in claim 17 are expected by the examiner to be inherent in the prior art devices made with polymer NRS-291, -293, -294 or -296 given the structural similarity of these prior art polymers to the aryl-substituted poly-p-arylenevinylene required by present claims 17-20, given that the prior art intends the polymers to be used in devices driven at temperatures in excess of 70 °C, and given that the prior art discloses service life values in excess of 1000 h. Although the working examples in the prior art disclose initial brightness values lower than the values set forth in claim 17, the prior art values are obtained at relatively low voltages (3V). Claim 17 does not limit the voltage at which the initial brightness value is obtained. As is well-known in the art (and admitted by applicants on page 1 of the present specification), brightness can be increased by increasing voltage. Since the prior art polymers referenced above meet the limitations of the polymer required by the present claims and are intended for use in electroluminescent devices driven at temperatures in excess of 70 °C, it is the examiner's position that it is reasonable to expect that devices comprising these polymers inherently meet the service life limitations set forth in claim 17.

8. Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/24526.

(See US 2002/0064680-A1 as representing a translation of the international application published as WO 99/24526.)

See the whole document. In particular, see the abstract, page 21 (monomers 3, 9 and 16), p. 22 (monomer C), p. 54, l. 7-p. 56, l. 3, p. 58, l. 1-20, p. 59, l. 12-p. 61, l. 5, p. 62, l. 1-22, p. 63, l. 13-p. 64, l. 3, p. 64, l. 27-p. 65, l. 14, p. 67, l. 10-p. 68, l. 16, p. 76 and pp. 79-81.

Each of prior art polymers P2, P3, P6, P8, P9, P10, P12, P14, P16 and V2 are aryl-substituted poly-p-arylenes comprising a repeating unit of formula (C1) as defined in present claim 17 and further defined in claims 18-20.

These polymers are disclosed for use in an organic electroluminescent device.

The service life limitations set forth in claim 17 are expected by the examiner to be inherent in the prior art devices made with polymer P2, P3, P6, P8, P9, P10, P12, P14, P16 or V2 given the structural similarity of the prior art polymers to the aryl-substituted poly-p-arylenevinylene required by present claims 17-20. In particular, prior art polymer P2 consists of the same repeating units as the polymer of formula (C2) on page 13 of the present specification, and prior art polymer P8 consists of the same repeating units as the polymer of formula (C8) on page 13 of the present specification. It is reasonable to expect that a device made with prior art polymer P2 or P8 will meet the limitations of claims 17-20 since a device made with a polymer of present formula (C2) or (C8) meets the limitations.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/21936 as applied to claims 17-20 above and for the further reasons set forth below.

The specific prior art polymers relied upon in rejecting the claims under 35 U.S.C. 102(b) correspond to polymers comprising (consisting of, in the case of NRS-291 and NRS-293) a repeating unit of formula (C1) in which p is 0.

While the prior art does not disclose any specific examples of polymers comprising or consisting of units of present formula (C1) in which p is 1, 2 or 3, such polymers are suggested by and are within the scope of the prior art. A polymer comprising or consisting of units of formula (C1) as defined on page 4 of the prior art wherein R^1 is a C_1 - C_{20} alkoxy suggests a polymer comprising or consisting of units of formula (C1) as defined in present claims 13 and 17 wherein p is 1 and R is $-XR^1$ wherein -X- represents -O- and R^1 represents a C_1 - C_{20} alkyl group. (For purposes of this rejection, the examiner presumes that "alkylene" in the seventh line after formula (C1) in claim 13 should read --alkyl--.) A polymer comprising units of formula (C2) as defined on page 4 of the prior art suggests a polymer comprising units of formula (C1) as defined in present claim 17 wherein p is 1 and R is a C_4 - C_{12} aryl group which may or may not be substituted.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make polymers within the scope of the prior art and suggested by the prior art other than those specifically disclosed with the expectation that other polymers suggested by the prior art would be usable for the prior art purposes. Given the prior art disclosure as a whole regarding service life values, storage and operating temperatures, and emission color, it would have been within the level of ordinary skill of a worker in the art at the time of the invention to provide a polymer comprising repeating units suitable for providing a desired color of light emission while optimizing device characteristics such as service life.

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 13-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,743,525. Although the conflicting claims are not identical, they are not patentably distinct from each other. There is substantial overlap between the aryl-substituted poly-p-arylenevinylene as defined in the

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patented claims and the present claims, the differences being that the present claims are slightly broader than the patent claims in allowing the unit $-X-$ to represent $-O-$, and slightly narrower than the patent claims in that the present claims do not explicitly allow R^1 and R^2 to together constitute a C_1-C_{20} alkylene group. With respect to the organic electroluminescent devices of the patented and present claims, the organic electroluminescent device of patent claim 6 is required to have the same properties as recited in present claim 17.

13. Miscellaneous:

In line 1 of claim 15, "substitited" should read --substituted--.

In line 2 of claim 17, either "of" should be deleted or "comprising" should be changed to --comprised--.

The extraneous markings to the lower left of formula (C1) in claim 17 should be deleted.

In the seventh and eighth lines after formula (C1) in claim 17, either "a" in the seventh line should be deleted or "groups" in the sixth line should be changed to --group--.

14. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for Art Unit 1774 is (703) 872-9306 for all official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
April 27, 2005

Marie R. Yamnitzky
MARIE YAMNITZKY
PRIMARY EXAMINER